For the use of a Registered Medical Practitioner or a Hospital or a Laboratory only

Biocon

℞

Gliclazide and Metformin Hydrochloride (Prolonged Release) Tablets

ZUKER® MF ज़ूकर एम एफ

Composition:
Each bilayered modified release tablet contains:

Gliclazide IP	80 mg
Metformin Hydrochloride IP (In Prolonged Release form)	500 mg
Excipients	q.s.

Colour: Ponceau 4R

Pharmacotherapeutic group:
Combinations of oral blood glucose lowering drugs
ATC code: A10BD02

Pharmacological Properties:
Zuker® MF contains two oral anti-hyperglycaemic drugs gliclazide and metformin hydrochloride extended release used in the management of type 2 diabetes (NIDDM), which has not come under control by diet and exercise alone, or with monotherapy with either of the individual molecules of either group.

Pharmacodynamic Properties:
Gliclazide:
The main mechanism of action of gliclazide consists of an increase in the insulin secretory potential of pancreatic beta-cells in a situation of hyperglycemia. This effect of gliclazide on insulin secretion is maintained during long-term treatment in type 2 diabetic patients. In addition to the effect of gliclazide on the secretion of insulin, extrapancreatic effects have also been evidenced. Gliclazide improves peripheral sensitivity to insulin and increases glucose utilization rate. Additionally, gliclazide is a strong free radical scavenging agent, an effect demonstrated both in vitro and in patient and it possesses anti-platelet properties which are independent of its antidiabetic action, and improves the fibrinolytic potential in diabetic patients.
Metformin:
Metformin is an oral anti-hyperglycaemic drug used in the management of type 2 diabetes. It improves glucose tolerance in patients with type 2 diabetes (NIDDM), lowering both basal and postprandial plasma glucose. Metformin decreases hepatic glucose production, decreases intestinal absorption of glucose, and improves Insulin sensitivity by increasing peripheral glucose uptake and utilization.

Pharmacokinetic Properties:
Gliclazide: The gliclazide present in this combination provides excellent efficacy, acceptability and some additional properties to improve vascular outcome. It is rapidly absorbed from the GIT and highly bound to albumin (95%) and is metabolised in the liver. The major route of elimination of gliclazide and its metabolites is via the urine.
Metformin:
The absolute bioavailability of a metformin 500mg tablet given under fasting conditions is approximately 50-60%. Although the extent of metformin absorption increased by approximately 50% when given with food. There was no effect of food on C_{max} and T_{max} of metformin. Both high and low fat meals had the same effect on the pharmacokinetics. It is cleared from the body by tubular secretion and excreted unchanged in the urine within 24 hours.

Dosage & Administration:
Zuker® MF can be taken, one tablet twice a day under medical supervision. One tablet to be swallowed as a whole with a glass of water, preferably just before meal or during meal. Do not take more Zuker™ MF than prescribed; in case you have missed a dose, do not take double the dose to make up for the one you have missed. Accidentally, if you have taken too many tablets and experience the symptoms of low blood sugar (hypoglycemia) e.g., dizziness, lightheadedness, hunger, nervousness, shaky-feeling, drowsiness, confusion, perspiration & palpitations; you should drink/eat something. Hypoglycemia may be potentiated during concomitant treatment with other drugs/other antidiabetic drugs/alcohol.

Contraindications:
- Congestive heart failure requiring pharmacologic treatment
- Known hypersensitivity to this product or any of its components.
- Renal disease or renal dysfunction, acute myocardial infarction, and septicemia
- Patients undergoing radiologic studies involving intravascular administration of iodinated contrast materials, because use of such Products may result in acute alteration of renal function.

Drug interactions:
Concomitant administration of angiotensin enzyme inhibitors (captopril, enalapril), other antidiabetic drugs (Insulin, acarbose) beta-blockers, fluconozole, histamine (H_2) receptor antagonist, monoamine oxidase inhibitors (MAOIs), sulphonamides and non-steroidal anti-inflamatory agents increases sensitivity to Insulin and potentiation of blood glucose lowering effect and thus in some instances, hypoglycaemia may occur . Dosage of the oral antidiabetic agent may need to be reduced. Patients receiving estrogens or oral contraceptives, phenytoin, quinolones should be closely monitored for loss of diabetic control when therapy is instituted or discontinued.

Renal impairment:
The use of gliclazide and metformin is contraindicated in patients with renal impairment.

Hepatic impairment:
The use of gliclazide and metformin is not recommended in patients with hepatic impairment.

For the use of a Registered Medical Practitioner or a Hospital or a Laboratory only

Biocon

℞

Gliclazide and Metformin Hydrochloride (Prolonged Release) Tablets

ZUKER® MF ज़ूकर एम एफ

Pregnancy:
Abnormal blood glucose levels during pregnancy are associated with the higher incidence of congenital abnormalities. Most experts suggest Insulin be used to maintain the blood glucose levels as close to normal as possible. The use of gliclazide and metformin combination is not recommended for use in pregnancy.

Lactation:
Studies in lactating rats show that metformin is excreted into milk and reaches levels comparable to those in plasma. Similar studies have not been conducted on nursing mothers. It is not known whether gliclazide or its metabolites are excreted in breast milk. Hence, the use of gliclazide and metformin combination is not recommended for use in lactating mothers, and if the diet alone is inadequate for controlling blood glucose, Insulin therapy should be considered.

Paediatric use:
Safety and effectiveness of gliclazide and metformin combination in pediatric patients have not been established.

Geriatric use:
Metformin is known to be excreted by the kidneys and because the risk of serious adverse reactions to the drug is greater in patients with impaired renal function, hence gliclazide and metformin should be used only in patients with normal renal function. Because aging is associated with reduced renal function the use of gliclazide and metformin combination should be with caution as age increases. Care should be taken in the dose selection and regular renal function be monitored.

Side Effects:
Gastrointestinal disturbances: Nausea, diarrhoea, gastric pain, constipation, vomiting, metallic taste in mouth. These reactions are generally dose related and disappear when the dose is reduced.

Dermatological effects: Rash, pruritus, urticaria, erythema and flushing.
Miscellaneous: Headache and dizziness.
Hypoglycaemia: Gliclazide appears to be associated with a low incidence of hypoglycaemia. Gliclazide may have the potiential to produce adverse cardiovascular effects; however gliclazide has been established agent for the treatment of type 2 diabetes for a number of years without adverse cardiovascular effects.

Overdosage:
Overdosage of sulphonylureas, including gliclazide, can produce hypoglycaemia. Mild hypoglycaemic symptoms without loss of consciousness or neurologic findings should be treated aggressively with oral glucose and adjustments in drug dosage and/or meal patterns. Severe hypoglycaemic reactions, with coma, convulsions or other neurological disorders are possible and must be treated as medical emergency, requiring immediate hospitalization.

Lactic acidosis is a rare, but serious, metabolic complication that can occur if metformin accumulates during treatment due to overdosing. Strict monitoring should be continued until the doctor is sure that the patient is out of danger.

Storage:
Store below 30°C. Protect from light & moisture.
Keep out of reach of children.

Special Precautions for disposal and other handling:
Any unused medicinal product should be disposed off in accordance with the local requirements.

Shelf Life: Please refer carton/blister.

Presentation:
Available as blister pack of 10 tablets.

Marketed by:
Biocon Biologics India Limited
Biocon House, Semicon Park,
Electronics City, Phase - II,
Bengaluru - 560 100, India.

BF/LL/3714/01

Leaflet revised on August 2019.

® - Registered trademark

To report adverse events and/or product complaints visit our website **www.biocon.com** or call toll free No.: **1800 102 9465** or e mail us at **drugsafety@biocon.com**